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**UNIVERSITÄT
BERN**

Monitoring workshop

Proceedings

**Gothenburg, Sweden
5th – 6th February 2019**

Monitoring workshop

Topics

- Principles for successful extension: Approaches to bring research knowledge and practice closer together
- Joint meeting with Nordic-Baltic beekeeper associations, researchers and advisers
- Projects regarding funding of network of advisory services
- Presentations

When

- 6th – 7th February 2019

Where

- Clarion Hotel Post
Drottningtorget 10, 411 03 Gothenburg, Sweden

Registration fee

- Registration fee: **40 €**
(incl. lunches and a social diner, payable on site)
- There will be no reimbursement for travel/accommodation

Travel

- By **airplane** to Gothenburg airport (Göteborg Landvetter Airport) and then bus to the city centre.
- The airport is situated around 25 km from the city centre, and it takes 20 minutes to travel by Flygbuss airport coach between the airport and Gothenburg centre. The **bus** terminal there (Nils Ericson Terminalen) is around 300 meters from the Clarion Hotel Post.
The price for a single journey with the bus is 99 SEK.
See flygbussarna.se for information about timetables.
- It is also possible to go by **taxi** from the airport to the city centre. The price is between 290 and 445 SEK depending on the taxi company and time of day.

Schedule

5th February 2019

Time	Session 1
09:00-10:45	Welcome, overview presentation, update on publications, countries involved
10:45-11:00	<i>Coffee/snack break</i>
11:00-12:00	Strategic development of COLOSS monitoring
12:00-13:00	Lunch
Session 2	
13:00-14:30	Prepare 2019 questionnaire (I)
14:30-15:00	<i>Coffee/snack break</i>
15:00-18:00	Prepare 2019 questionnaire (II)
19:00	Social dinner

6th February 2019

Time	Session 3
09:00-10:30	Side-results of monitoring: Discussion and presentation: Jiri Danihlik & Jan Brus Results from geoinformatical analysis of collected data from Austria, Czechia, Denmark, Slovakia, Sweden and Ukraine
	Alison Gray & Abdulmajeed Albarrak: A first survey of beekeepers in Saudi Arabia
	Per Angelstam / Mariia Fedoriak
10:30-10:45	<i>Coffee/snack break</i>
Session 4	
10:45-12:00	Open Discussion and closing of workshop
12:00-13:00	Lunch

ORGANIZER CONTACTS	
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Abstracts

COLOSS Monitoring Group activities and challenges in 2018

(1) Alison Gray (2) Robert Brodschneider

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(2) University of Graz, Institute of Biology, Graz, Austria

The COLOSS monitoring group continues to grow year on year. The annual COLOSS monitoring workshop was held in February 2018 in Nitra, Slovakia, where as well as scientific discussions and presentations there were opportunities to visit several impressive local mead producers and learn about the production process. As usual, the workshop included discussion and finalisation of the standardised monitoring questionnaire. A new feature was the presentation of the LimeSurvey questionnaire software, already used by some countries, for more general use in a common survey. This would allow some data quality checks to be built in, as well as offering a free and flexible platform for an online survey, and at the same time allow additional questions of local interest to be added as required. Data governance issues were also discussed. In 2018 36 countries carried out national monitoring surveys and submitted colony loss data for analysis, most though not all by the requested deadline. This was an increase of 6 countries since 2017, including Portugal, Bulgaria and Greece. While the LimeSurvey option was well used, it did lead to new data issues, as not all national co-ordinators appreciated the need for data recoding after downloading results from LimeSurvey. This as well as numerous other data problems, led to a usable version of their data being received from some countries rather late in the summer, delaying analysis of the complete dataset. This has been a major contribution to delay in publication of this year's results. Colony loss results from the 2017 survey appeared in the Journal of Apicultural Research in May 2018. Two monitoring group sessions were held at the COLOSS Conference in Ghent, Belgium in September 2018, including presentation of some provisional whole dataset results and discussion of these various data issues. A presentation of 10 years of COLOSS monitoring was given at EurBee 2018, also in Ghent. The ResearchGate project "COLOSS monitoring of honey bee colony losses" currently has over 150 followers. Challenges for the group include the importance for all data contributors to take responsibility for submitting quality data, as well as acting to identify existing data issues earlier after data submission. These become more important as the size of the monitoring group grows. An additional requirement will be to address the requirements of the EU General Data Protection legislation effective since late May 2018. A few of the later surveys did recognise this, but more general implementation is needed. Further examination of some of the colony loss questions would also be worthwhile.

A first survey of beekeepers in Saudi Arabia

(1) Alison Gray, (1) Abdulmajeed Albarrak

(1) Department of Mathematics and Statistics, University of Strathclyde,
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Most of the countries participating in the COLOSS monitoring group are in Europe, with a few notable exceptions including Israel and Algeria as long-term contributors. So far the Middle East is under-represented. The current work aims to find out more about beekeeping experience and practice in Saudi Arabia, where knowledge of levels of honey bee colony losses in particular is limited. After preliminary information gathering, it was decided to carry out a face-to-face survey of beekeepers in the south-west of the country. A short initial questionnaire was designed, including questions from the COLOSS questionnaire felt to be relevant for this first survey in an unfamiliar survey environment. The survey was implemented over several months in spring/summer of 2018, in co-operation with the heads of regional beekeeping associations. Data were collected from 109 beekeepers in the region of 7 cities, mostly using the face-to-face approach, supplemented by a small online survey. Questions concerning colony losses were kept simple in this first survey. Descriptive results indicate that, comparing spring, summer and winter seasons, summer is when the highest level of losses are experienced. A clearer picture of beekeeping in Saudi Arabia has been gained. Further analysis is in progress. It is hoped in time to follow up on this survey, for more in-depth information.

Results from geoinformational analysis of collected data from Austria, Czechia, Denmark, Slovakia, Sweden and Ukraine

(1) Jiri Danihlik (1) Jan Brus

(1) Palacky University Olomouc

We will present maps and graphs we made in the last year. The aim is to open the discussion on data analysis, (scientific) publications and the future of the Monitoring group

“Learning through landscape gradients” -Stakeholders’ views on sustaining beekeeping: a comparison of traditionally and intensively managed landscapes

(1) Mariia Fedoriak (1) Oleksandr Kulmanov (2) Galyna Moskalyk (3) Alina Zhuk (4) Per Angelstam

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Comparison of bee health and beekeeping in gradients from traditionally to intensively managed landscapes is one approach to understand the importance of different factors which may help to mitigate the problem of honey bee colony losses. We test the hypothesis that a more diverse/natural landscape context is more favourable for bees than a monocultural context. In Ukraine past trajectories of land use have led to a large contrast between abundant remnants of traditional village systems in remote locations, and the emergence of intensive agriculture. The aim of this study is to explore beekeepers’ perceived factors affecting beekeeping, the viability of bees, and ecosystem services. We used the steep landscape gradient in local administrative units between traditional village livelihoods in upland areas (Putyla district), intermediate (Storozhenets district) and intensive agriculture with orchards in lowlands (Khotyn district) in Ukraine’s Chernivtsi region as a case study. In each of three districts we worked with five focus groups (FGs), totalling 15 FGs in 3 strata. We recorded the conversations, and extracted the themes related to beekeeping, viability of bees, and ecosystem services. A total of 33 themes were identified in the FGs. The following themes were mentioned the most often: pleasure/personal satisfaction (in 12 of 15 FGs), use of pesticides (10), climate change (9), and financial benefits (7). There were only three cases when the same theme was mentioned in each of 5 FGs of the same district. All the beekeepers of the Carpathian upland areas (Putyla district) mentioned the local Carpathian bee breed to be valuable and/or well adapted to the regional conditions. Climate change was accused of influencing honey harvest in the last decades in Storozhenets district. Use of pesticides was mentioned as the major threat for beekeeping in Khotyn district with intensive orcharding. A total of 11 themes were mentioned in all three strata, 12 – in two, and 10 themes were exclusive for the different strata (e.g., unique honey in Putyla, the lack of dialogue between beekeepers and farmers in Khotyn). The FGs with beekeeping associations also allowed us to map other stakeholders among societal sectors at multiple levels through snowballing (e.g., farmers, local communities, authorities etc.).

Fedoriak, M.M., Angelstam, P.K., Kulmanov, O.L., Tymochko, L.I., Rudenko, S.S., Volkov, R.S. (2019) Ukraine is moving forward from ‘Undiscovered honey land’ to active participation in international monitoring of honey bee colony losses. *BeeWorld*, in press
